Examiner's Amendment

An examiner's amendment to the record appears below. Should the changes

and/or additions be unacceptable to applicant, an amendment may be filed as provided

by 37 CFR 1.312. To ensure consideration of such an amendment, it MUST be

submitted no later than the payment of the issue fee.

Authorization for this examiner's amendment was given in a telephone interview

with Mr. Shaun P. Montana (Reg. No. 43,009) on 07/15/2008.

The application has been amended as follows:

In claim 1. (Currently Amended) In an initiator agent, a method for determining

performance of a network link between the initiator agent and a target agent, the

method comprising:

creating a measurement packet group containing a set of measurement packets,

each measurement packet in the measurement packet group containing a respective

measurement packet identity relative to other measurement packets in the

measurement packet group and containing at least one measurement performance

metric associated with the initiator agent, by, for each measurement packet:

calculating a measurement sequence number for that measurement packet that

indicates the measurement packet identity relative to a total number of measurement

packets to be created within the measurement packet group;

inserting the measurement sequence number for that measurement packet into the

measurement packet; and

inserting a measurement group count into the measurement packet, the measurement group count indicating the total number of measurement packets to be created within the measurement packet group, the measurement sequence number and measurement group count allowing the target agent to compute a packet loss metric of measurement packets within the measurement packet group;

forwarding each measurement packet in the measurement packet group to a target agent over a communications network supporting communication between the initiator agent and the target agent;

repeating creation of each measurement packet and forwarding of each measurement packet in a sequence for each measurement packet of the measurement packet group, such that measurement packets in the measurement packet group are forwarded to the target agent in a sequence;

receiving a response packet group containing a set of response packets from the target agent, each response packet containing at least one target performance metric calculated by the target agent using the measurement performance metric in a corresponding measurement packet of the measurement packet group, wherein receiving comprises, for each response packet:

identifying a response sequence number within that response packet; and identifying a response ,group count within that response packet, the response ,group count indicating the total number of response packets to be created within the response packet , group for transmission to the initiator agent; and

calculating at least one network link metric from the at least one target

performance metric in each response packet of the response packet group, the at least

one network link metric identifying a packet latency and packet loss rate between the

initiator agent and target agent, wherein calculating comprises:

identifying a completion event for receipt of the response packet , group, and in

response to identifying the completion event, determining at least one packet loss

metric of packets lost in transmission between the initiator agent and target agent based

upon received response sequence numbers and a total number of packets in a packet

group identified by the response group count[[.]];

wherein creating a measurement packet group comprises:

for each measurement packet, inserting an amount of payload data into the

measurement packet; and

 wherein each response packet in the response packet group includes a copy of

the payload data within a corresponding measurement packet of the measurement

packet group, and wherein the method comprises:

repeating creation of each measurement packet, forwarding of each

measurement packet of the measurement packet group, receiving a response packet

group and calculating at least one network link metric in a sequence of multiple

iterations, and for each measurement packet group in each iteration in the sequence of

iterations, adjusting the amount of payload data inserted into the measurement packet

sequence group to identify how the calculated at least one network link metric changes

based on the adjusted amount of payload data, at least one of the amounts of payload

data inserted into the measurement packet causing an overall size of the measurement

packet to substantially reflect application level traffic between the initiator agent and the

target agent.

In claim 14. (Currently Amended) In an target agent, a method for determining

performance of a network link between the target agent and an initiator agent, the

method comprising:

receiving a measurement packet group containing a set of measurement

packets, each measurement packet in the measurement packet group containing a

respective measurement packet identity relative to other measurement packets in the

measurement packet group and containing at least one measurement performance

metric associated with the initiator agent, and for each measurement packet:

generating a target processing timestamp upon receipt of the measurement

packet, the target processing timestamp associated with the measurement packet

received and indicating a time at which the target agent receives the measurement

packet;

obtaining a measurement group count from the measurement packet, the

measurement group count indicating the total number of measurement packets to be

received within the measurement packet group;

obtaining a measurement sequence number from that measurement packet, the

measurement sequence number indicating the measurement packet identity of that

measurement packet relative to a total number of measurement packets to be created

within the measurement packet group as indicated by the measurement group count;

and

obtaining a measurement transmit timestamp as the measurement performance

metric from the measurement packet, the measurement transmit timestamp indicating a

time at which the initiator agent transmitted the measurement packet to the target agent;

calculating at least one target performance metric for each measurement packet

received in the measurement packet group, the at least one target performance metric

calculated using the measurement performance metric and measurement packet

identity from a corresponding measurement packet of the measurement packet group,

the at least one target performance metric identifying a packet latency and packet loss

metrics for measurement packets transferred between the initiator agent and target

agent;

creating a response packet group containing a set of response packets, each

response packet containing the at least one target performance metric calculated by the

target agent using the measurement performance metric from a corresponding

measurement packet of the measurement packet group, wherein creating comprises,

for each response packet:

identifying a response sequence number within that response packet; and identifying a

response ,group count within that response packet, the response group count indicating

the total number of response packets to be created within the response packet ,group

for transmission to the initiator agent; and

forwarding each response packet in the response packet group to the initiator

agent over a communications network supporting communication between the initiator

agent and the target agent[[.]];

wherein creating a measurement packet group comprises:

for each measurement packet, inserting an amount of payload data into the

measurement packet; and

wherein each response packet in the response packet group includes a copy of

the payload data within a corresponding measurement packet of the measurement

packet group, and wherein the method comprises:

repeating creation of each measurement packet, forwarding of each

measurement packet of the measurement packet group, receiving a response packet

group and calculating at least one network link metric in a sequence of multiple

iterations, and for each measurement packet group in each iteration in the sequence of

iterations, adjusting the amount of payload data inserted into the measurement packet

sequence group to identify how the calculated at least one network link metric changes

based on the adjusted amount of payload data, at least one of the amounts of payload

data inserted into the measurement packet causing an overall size of the measurement

packet to substantially reflect application level traffic between the initiator agent and the

target agent.

In claim 19. (Currently Amended) An initiator agent computer system

comprising: a memory; a processor; a communications interface; and

an interconnection mechanism coupling the memory, the processor and the

communications interface;

wherein the memory is encoded with an initiator agent application that when

performed on the processor, provides an initiator agent process that when executed on

the processor determines performance of a network link between the initiator agent

computer system and a target agent computer system by causing the initiator agent

computer system to perform the operations of:

creating a measurement packet group containing a set of measurement packets,

each measurement packet in the measurement packet group containing a respective

measurement packet identity relative to other measurement packets in the

measurement packet group and containing at least one measurement performance

metric associated with the initiator agent, by, for each measurement packet:

calculating a measurement sequence number for that measurement packet that

indicates the measurement packet identity relative to a total number of measurement

packets to be created within the measurement packet group;

inserting the measurement sequence number for that measurement packet into the

measurement packet; and

inserting a measurement group count into the measurement packet, the

measurement group count indicating the total number of measurement packets to be

created within the measurement packet group, the measurement sequence number and

measurement group count allowing the target agent to compute a packet loss metric of

measurement packets within the measurement packet group;

forwarding each measurement packet in the measurement packet group to a

target agent over a communications network supporting communication between the

initiator agent and the target agent;

repeating creation of each measurement packet and forwarding of each

measurement packet in a sequence for each measurement packet of the measurement

packet group, such that measurement packets in the measurement packet group are

forwarded to the target agent in a sequence;

receiving a response packet group containing a set of response packets from the target

agent, each response packet containing at least one target performance metric

calculated by the target agent using the measurement performance metric in a

corresponding measurement packet of the measurement packet group, wherein

receiving comprises, for each response packet:

identifying a response sequence number within that response packet; and identifying a

response ,group count within that response packet, the response ,group count

indicating the total number of response packets to be created within the response

packet group for transmission to the initiator agent; and

calculating at least one network link metric from the at least one target

performance metric in each response packet of the response packet group, the at least

one network link metric identifying a packet latency and packet loss rate between the

initiator agent and target agent, wherein calculating comprises:

identifying a completion event for receipt of the response packet ,group, and in

response to identifying the completion event, determining at least one packet loss

metric of packets lost in transmission between the initiator agent and target agent based

upon received response sequence numbers and a total number of packets in a packet

,group identified by the response ,group count[[.]];

wherein when the initiator agent process causes the initiator agent computer

system to perform the operation of creating a measurement packet group, the initiator

agent process causes the initiator agent computer system to perform the operation of:

for each measurement packet, inserting an amount of payload data into the

measurement packet; and

wherein each response packet in the response packet group includes a copy of

the payload data within a corresponding measurement packet of the measurement

packet group, and wherein the initiator agent process causes the initiator agent

computer system to perform the operation of:

repeating creation of each measurement packet, forwarding of each

measurement packet of the measurement packet group, receiving a response packet

group and calculating at least one network link metric in a sequence of multiple

iterations, and for each measurement packet group in each iteration in the sequence of

iterations, adjusting the amount of payload data inserted into the measurement packet

sequence group to identify how the calculated at least one network link metric changes

based on the adjusted amount of payload data, at least one of the amounts of payload

data inserted into the measurement packet causing an overall size of the measurement

packet to substantially reflect application level traffic between the initiator agent and the

target agent.

In claim 32. (Currently Amended) An target agent computer system comprising:

a memory;

a processor;

a communications interface; and

an interconnection mechanism coupling the memory, the processor and the

communications interface;

wherein the memory is encoded with a target agent application that when

performed on the processor, provides a target agent process that when executed on the

processor determines performance of a network link between an initiator agent

computer system and the target agent computer system by causing the target agent

computer system to perform the operations of:

receiving, via the communications interface, a measurement packet group containing a

set of measurement packets, each measurement packet in the measurement packet

group containing a respective measurement packet identity relative to other

measurement packets in the measurement packet group and containing at least one

measurement performance metric associated with the initiator agent, and for each

measurement packet:

generating a target processing timestamp upon receipt of the measurement

packet, the target processing timestamp associated with the measurement packet

received and indicating a time at which the target agent receives the measurement

packet;

obtaining a measurement group count from the measurement packet, the

measurement group count indicating the total number of measurement packets to be

received within the measurement packet group;

obtaining a measurement sequence number from that measurement packet, the

measurement sequence number indicating the measurement packet identity of that

measurement packet relative to a total number of measurement packets to be created

within the measurement packet group as indicated by the measurement group count;

and

obtaining a measurement transmit timestamp as the measurement performance

metric from the measurement packet, the measurement transmit timestamp indicating a

time at which the initiator agent transmitted the measurement packet to the target agent;

calculating at least one target performance metric for each measurement packet

received in the measurement packet group, the at least one target performance metric

calculated using the measurement performance metric and measurement packet

identity from a corresponding measurement packet of the measurement packet group,

the at least one target performance metric identifying a packet latency and packet loss

metrics for measurement packets transferred between the initiator agent and target

agent;

creating a response packet group containing a set of response packets, each

response packet containing the at least one target performance metric calculated by the

target agent using the measurement performance metric from a corresponding

measurement packet of the measurement packet group, wherein creating comprises,

for each response packet:

identifying a response sequence number within that response packet; and identifying a

response group count within that response packet, the response ,group count indicating

the total number of response packets to be created within the response packet , group

for transmission to the initiator agent; and forwarding, via the communications interface,

each response packet in the response packet group to the initiator agent over a

communications network supporting communication between the initiator agent and the

target agent[[.]];

wherein when the initiator agent process causes the initiator agent computer

system to perform the operation of creating a measurement packet group, the initiator

agent process causes the initiator agent computer system to perform the operation of:

for each measurement packet, inserting an amount of payload data into the

measurement packet; and

wherein each response packet in the response packet group includes a copy of

the payload data within a corresponding measurement packet of the measurement

packet group, and wherein the initiator agent process causes the initiator agent

computer system to perform the operation of:

repeating creation of each measurement packet, forwarding of each

measurement packet of the measurement packet group, receiving a response packet

group and calculating at least one network link metric in a sequence of multiple

iterations, and for each measurement packet group in each iteration in the sequence of

iterations, adjusting the amount of payload data inserted into the measurement packet

sequence group to identify how the calculated at least one network link metric changes

based on the adjusted amount of payload data, at least one of the amounts of payload

data inserted into the measurement packet causing an overall size of the measurement

packet to substantially reflect application level traffic between the initiator agent and the

target agent.

Claims 13 and 31 have been deleted.

Allowable Subject Matter

Claims 1, 4-9, 11-12, 14, 16-19, 22-27, 29-30, 32, 34-38 are allowed.

Conclusion

Any inquiry concerning this communication or earlier communications from the

examiner should be directed to Sulaiman Nooristany whose telephone number is 571-

270-1929. The examiner can normally be reached on Monday Through Friday 7:30 am

to 5:00 pm EST. If attempts to reach the examiner by telephone are unsuccessful, the

examiner's supervisor, Jeffery Pwu can be reached on 571-272-6798.

/S. N./

Examiner, Art Unit 2146

07/16/2008

/Jeffrey Pwu/

Supervisory Patent Examiner, Art Unit 2146